

Response under 37 C.F.R. 1.116  
- Expedited Examining Procedure -  
Examining Group 1774

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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of:

Ting Tao, et al

IMAGEABLE ELEMENT  
COMPRISING SULFATED  
POLYMERS

Serial No. 10/736,078

Filed 15 December 2003

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA. 22313-1450

Sir:

Group Art Unit: 1774

Examiner: Betelhem Shewareged

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*December 23, 2005*  
Date

**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

### **PRE-APPEAL BRIEF REQUEST FOR REVIEW**

On-press developable lithographic printing plate precursors can be directly mounted on a press after imaging and developed with ink and/or a fountain solution during the initial press operation. These precursors do not require a separate development step before being mounted on the press. There is a need, therefore, for imaging compositions that can be used in this manner.

Appellants' presently claimed invention meets this need. It calls for an imageable element in which the the imageable layer comprises a photothermal conversion material, and a sulfated polymer comprising sulfate groups and a polymer backbone. The sulfate groups are attached to aryl groups that are pendent to the polymer backbone, to alkyl groups, or to both aryl groups that are pendent to the polymer backbone and the alkyl groups. Thus, it is clear from the claims present in this application and the teaching in the specification that the sulfate groups in the "sulfated polymer" are attached to the polymer backbone in only two ways: (1) through aryl groups that are pendant to the backbone, or (2) through alkyl groups. The sulfate groups are not directly attached to the polymer backbone.

### **Rejection Under 35 U.S.C. §102(e)**

Claims 1-7 have been rejected as anticipated by U.S. Patent Application Publication 2005/008965 (Tao et al.). Appellants disagree with this rejection.

The Final Rejection refers to the teaching in Tao et al. of a "sulfated phenolic resin" used in an imageable element.

Appellants do not disagree with the Examiner's understanding of a benzene derivative (or aryl group) being created by removal of a hydrogen atom from the benzene ring. However, they disagree with the rejection because they believe that the teaching of Tao et al. has not been correctly interpreted. In particular, it is believed that Appellants' location of sulfate groups has been misunderstood in relation to the location of sulfate groups taught in Tao et al.

Appellants' claimed imageable element requires the presence of a "sulfated polymer" in which the sulfate groups are attached to pendant aryl groups, to alkyl groups, or to both types of groups. Appellants' claimed invention

does not call for sulfate groups directly attached to the benzene rings of the polymer backbone.

Tao et al. requires the presence of sulfate groups that are directly attached to the benzene rings that are part of the polymer backbone. This requirement is clearly described in [0034] of Tao et al. where the phrase “sulfate phenolic resin” used in the claims is defined. The sulfate groups are attached to the aromatic rings of the polymer backbone in place of at least some of the hydroxyl substituents. This definition in Tao et al. clearly does not include resins in which the sulfate group is attached to pendant aryl groups, or to alkyl groups as in the present invention. In the resins used in the present invention, there is always a chemical moiety between the sulfate group and the aromatic rings in the polymer backbone. This is not the case for the polymers described in Tao et al.

In the Advisory Action mailed October 31, 2005, the Examiner pointed to paragraphs [0041] and [0042] as supporting her anticipation rejection of Claims 1-7 over Tao et al.

The description in these two paragraphs of Tao et al. clearly supports the discussion of its general teaching cited above (e.g. in paragraph [0034]. The sulfated phenolic resin pointed out in Tao et al. includes two types of repeating units represented by structures A and B. Both structures use conventional patent chemical terminology and definition by showing the repeating structures as having bonds extending beyond the parentheses. This is meant in conventional patent nomenclature to represent connections to other repeating units that form the polymer backbone. The groups within the individual structures, then, are either part of the polymer backbone, or pendant groups that are attached to the polymer backbone.

For example, structure A has a benzene ring (substituted with groups -OR<sub>1</sub> and -R<sub>2</sub>) and a methylene group (substituted with -R<sub>3</sub> and -R<sub>4</sub>). The benzene ring and methylene group form the polymer backbone while the -OR<sub>1</sub>, -R<sub>2</sub>, -R<sub>3</sub>, and -R<sub>4</sub> are pendant to the polymer backbone.

R<sub>1</sub> can be any of a number of groups defined in paragraph [0042] including an aryl group. Substituents, sulfate or otherwise, for this aryl group are not described in paragraph [0042]. Nor are sulfate substituents described for the aryl group in paragraph [0045]. Rather paragraph [0042] makes it clear that the reason for having both structures A and B is to provide a ratio of the B units to the

total polymer units as a way of defining the “degree of sulfation”. Thus, there is no intention or contemplation of sulfate groups in structure A.

Structure B represents different repeating units with sulfate groups and also shows the bonds extending through the parentheses as a conventional method of showing a repeating polymer unit. The polymer backbone therefore also comprises a benzene ring and a methylene group to which are attached sulfate,  $-R_3$ , and  $-R_4$  groups.

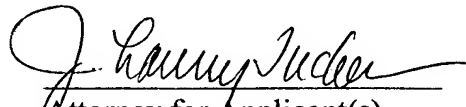
Moreover, it is clear that sulfate groups are positioned in the structure B repeating units (called “sulfated phenolic units in paragraph [0042]). However, those sulfate groups (comprising the charged  $-\text{OSO}_3$  moiety shown structure B) are clearly and unequivocally attached directly to the benzene (or “aryl”) group in the polymer backbone. The benzene ring is not pendant to the polymer backbone—it is part of it. A skilled worker in polymer chemistry would interpret paragraph [0042] in no other manner.

Thus, in view of the entire document, the statement in the Advisory Action that “the sulfate group is attached to the aryl group that is pendant to the polymer backbone” in Tao et al. is incorrect. Clearly, the sulfate group is pendant to the polymer backbone but it is not attached to a pendent aryl group as required in Appellants’ presently claimed invention.

Thus, the sulfated phenolic resins taught in Tao et al. are structurally and chemically different than the “sulfated polymers” required in the presently claimed invention. Because Tao et al. does not describe each and every limitation of Appellants’ claimed invention as understood by a skilled polymer chemist, either expressly or under principles of inherency, it cannot anticipate the presently claimed invention.

It is believed that the foregoing is a complete response to the Final Rejection of Claims 1-7 over Tao et al. and this application should be passed to allowance. A Notice of Appeal is being filed herewith.

Respectfully submitted,

  
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If the Examiner is unable to reach the Applicant(s) Attorney at the telephone number provided, the Examiner is requested to communicate with Eastman Kodak Company Patent Operations at (585) 477-4656.